LINEAR POLISHING SHEET WITH WINDOW

CROSS-REFERENCE TO RELATED CASES

[0001] This application is a continuation of co-pending U.S. patent application U.S. PAT NO. 6,796,880 Serial No. 10/394,599, filed March 21, 2003, which is a continuation of and claims priority under 35 U.S.C. § 120 to U.S. patent application Serial. No. 09/724,846, filed Nov. 28, 2000, now issued as U.S. Pat. No. 6,585,563, which is a continuation of U.S. patent application Serial No. 09/244,816, filed Feb. 4, 1999, now issued as U.S. Pat. No. 6,179,709, the entirety of which are incorporated herein by reference.

BACKGROUND

[0002] The invention relates to linear polishing, and more particularly to in-situ monitoring of linear substrate polishing operations.

[0003] It is always desirable to monitor polishing operations in-situ. For example, during chemical mechanical polishing operations, it is desirable to determine the point (end point) when a substrate layer has been polished to a desired thickness because the polishing rate may vary over time. Chemical mechanical polishing is a process by which a substrate surface is smoothed (planarized) to a substantially uniform level by a polishing pad and an abrasive slurry. A substrate to be polished is usually mounted on a rotatable carrier head and pressed against a moving polishing pad. The polishing pad typically consists of an abrasive sheet. An abrasive chemical solution (slurry) may be introduced onto the polishing pad to assist in the polishing process.

SUMMARY

[0004] The invention features a substrate polishing scheme (apparatus and method) according to which a polishing surface of a polishing sheet is driven in a generally linear direction by a drive mechanism, a surface of a substrate is held against the polishing surface of the polishing sheet by a polishing head, and the substrate is probed through the polishing sheet by a monitoring system.